**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

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| INTELLECTUAL VENTURES I LLC<br>and<br>INTELLECTUAL VENTURES II LLC,<br><br>       Plaintiff,<br><br>v.<br><br>LENOVO GROUP LIMITED,<br><br>       Defendant. | Civil Action No. 6:23-cv-307<br><br>**JURY TRIAL DEMANDED** |

**DEFENDANT LENOVO GROUP LIMITED'S OPENING CLAIM CONSTRUCTION
BRIEF**

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## I.    INTRODUCTION

Defendant Lenovo Group Limited ("LGL") submits this opening claim construction brief, pursuant to the Court's Scheduling Order (Dkt. 21), to construe terms of U.S. Patent Nos. 7,325,140, 7,623,439, 7,646,835, and 8,474,016.[1]

## II.    LEGAL STANDARD

The Court is familiar with the legal principles of claim construction. *E.g.*, *eCeipt, LLC v. Victoria's Secret Stores, LLC*, Nos. 6:20-CV-747-ADA, 6:20-CV-754-ADA, 2021 WL 4037599, at *1 (W.D. Tex. Sept. 3, 2021). LGL cites additional relevant legal authority in-line below.

## III.    OVERVIEW OF THE ASSERTED PATENTS[2]

### A.    The '016 and '140 Patents

The '140 Patent relates to a system for remotely managing a network device including "a secure management access controller which is in direct communication with the network device." '140 Patent, Abstract. The preferred embodiment, the Secure Management Access Control for Computer Chipset (SMACC), is a special purpose computer for performing the claimed functions. *Id.*, 5:48-62. The '140 Patent discloses that "the SMACC has two types of interfaces for transporting management traffic between the SMACC and the management center: (1) a Virtual Management Interface (VMI), which logically separates management traffic from user data traffic when a user interface on the managed device is going to be utilized for the network connection, and (2) a SMACC Network Enabled Management Interface, which provides a physically separate interface for the management network connection . . . ." *Id.*, 12:1-4, 4:12-14.

The '016 Patent is a continuation of the '140 Patent and relates to remote management of network devices. '016 Patent, Abstract, 1:25-31. The preferred embodiment of the invention is the

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[1] Plaintiff also asserts U.S. Patent No. 7,089,443. LGL believes that the terms of the '443 Patent should be given their plain and ordinary meaning, but LGL reserves the right to dispute and later address any improper plain and ordinary meaning.

[2] LGL incorporates the description of the '439 Patent and definition of a POSITA for that patent as set forth in Zebra's Opening Claim Construction Brief (6-23-cv-00292 (WDTX), Dkt. 43),

SMACC, which can be implemented in hardware, software, or combined with the main processor of a device. *Id.*, 5:46-67. The SMACC manages the network device in accordance with encrypted management requests received from a remote administrator. *Id.* The claims of the '016 Patent describe the receipt and transmission of management requests. *Id.*, claim 1.

### B.    '835 Patent

The '835 Patent relates to "[a] method for automatically calibrating intra-cycle timing relationships between command signals, data signals, and sampling signals for an integrated circuit device." '835 Patent, Abstract. The '835 Patent asserts that "modern memory integrated circuit designs require exacting control of critical timing specifications, and design parameters must be strictly maintained to keep the entire system in balance." *Id.*, 1:22-25. According to the specification, "what is required is a solution that can ensure critical timing specifications remain within certain specified parameters." *Id.*, 1:29-31. The '835 Patent's purported solution involves "generating command signals for accessing an integrated circuit component, accessing data signals for conveying data for the integrated circuit component, and accessing sampling signals for controlling the sampling of the data signals" and adjusting a "phase relationship between the command signals, the data signals, and the sampling signals." *Id.*, 2:19-24.

### C.    Level of Skill of a Person of Ordinary Skill in the Art

#### 1.  '016 and '140 Patents

A person of ordinary skill in the art ("POSITA") at the time of the alleged invention of the '016 and '140 Patents would have had a Bachelors' degree in electrical or computer engineering or a comparable field of study, plus approximately two to three years of professional experience in the field of computer and/or network design and security or comparable industry experience. Additional graduate education could substitute for professional experience, and experience in the field could substitute for formal education.

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### 2. '835 Patent

A POSITA with respect to the '835 Patent, as of the time of the respective date of the purported invention, would have had a Bachelors' degree in electrical or computer engineering or a comparable field of study, and two or more years of experience designing high-speed computer memory devices. Additional graduate education could substitute for professional experience, and experience in the field could substitute for formal education.

## IV.    DISPUTED TERMS

### A.    '016 Patent

#### 1. "processor configured to facilitate operation of the network device" '016 Patent, Claim 1

| LGL's Proposed Construction | IV's Proposed Construction |
|---|---|
| Subject to 112, ¶ 6<br>Function: "facilitating the operation of the network device"<br>Structure: Indefinite | Plain and ordinary meaning |

Claim 1 of the '016 Patent is indefinite because it uses means-plus-function claiming and fails to disclose adequate corresponding structure. *WSOU Invs. LLC v. Google LLC*, No. 2022-1063, 2023 WL 6889033, at *1-2 (Fed. Cir. Oct. 19, 2023) (upholding this Court's finding that "processor configured to" term was means-plus-function and indefinite for failing to disclose corresponding structure).

The limitation "processor configured to facilitate operation of the network device" is subject to Section 112, ¶ 6 because it fails to connote sufficiently definite structure to a POSITA. While there is a rebuttable presumption that the "processor" limitation is not means-plus-function, the Federal Circuit and this Court have found "processor" to fail to connote sufficient structure based on claims similar to those at issue here. *WSOU Invs.*, 2023 WL 6889033, at *3. In *WSOU Investments*, the Federal Circuit affirmed this Court's finding, stating that "[i]n this case, as the

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district court correctly noted, the specification treats the word 'processor' so broadly as to generically be any structure that manipulates data." *Id.* at \*4; *see also St. Isidore Rsch., LLC v. Comerica Inc.*, No. 2:15-cv-1390-JRG-RSP, 2016 WL 4988246, at \*14 (E.D. Tex. Sept. 19, 2016) (finding "processor configured to" claim terms subject to 112(6) when they fail to "describe how the processors interact with each other or with other limitations in the claim to achieve their objectives"). The presumption is overcome here because the '016 Patent fails to recite sufficiently definite structure of the "processor" for performing the function of "facilitat[ing] operation of the network device." *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015).

Two distinct processors are claimed—apparatus processor and the processor of the network device. *See, e.g.*, '016 Patent, claim 1 ("the processor of the apparatus is distinct from the processor included in the network device"). The apparatus processor is "configured to control one or more functions of a network device" and "configured to decrypt the encrypted form of the management requests." *Id.*, 6:7-11, 8:34-37, 8:49-53; FIGS. 28, 29. The apparatus processor is connected to a bus controller through a first bus. *Id.*, claim 1. The bus controller receives management requests from a remote administrator and sends those to the apparatus processor over the first bus. *Id.*

The processor of the network device is "configured to facilitate operation of the network device." Unlike the apparatus processor, claim 1 does not describe any inputs to, or outputs of, the processor of the network device nor does it describe any interaction between the processor of the network device and other claimed components. Lee Decl., ¶ 33. Nor does the specification provide any information to "detail the objectives and operations" of the processor of the network device.[3] *St. Isidore Rsch.*, 2016 WL 4988246, at \*15 (distinguishing cases where "processor" was found to be structural because "the claims recited how the processor terms were connected with other claim

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[3] The specification includes additional descriptions where the apparatus processor and the processor of the network device share resources. *E.g.*, '016 Patent, 17:13-18, FIG. 14. However, these are embodiments outside the scope of claim 1 and its dependent claims that cannot provide corresponding structure because claim 1 requires the "processor of the apparatus [be] distinct from the processor included in the network device." *Id.*, claim 1; Lee Decl., ¶ 33.

limitations"). For example, the specification generically describes how the apparatus processor can issue commands to power on or power off the processor of the network device. *Id.*, 10:51-53; 18:42-51, 20:46-51, FIG. 31. Yet simply being able to power on and power off the processor of the network device and disclosing a power circuit of the processor of the network device is not a disclosure of sufficient structure for ***performing the claimed operation*** of "facilitating the operation of the network device." *See Williamson*, 792 F.3d at 1348; Lee Decl., ¶ 36.

Instead, the specification only describes the processor of the network device as a general purpose chipset. *E.g.*, '016 Patent, 5:48-59; 11:1-9. This chipset is identified as an alternative to the undescribed processor of the network device, which can also be implemented in software. '016 Patent, 5:52-59 (the apparatus processor and processor of the network device are not "limit[ed] [to] the implementation of these features to separate chipsets in a device" but "can be combined with other hardware and software features . . . ."). Thus, even though a highly generic processor of the network device is disclosed (a general purpose chipset), the specification makes clear that the processor may be software as well. *Id.*; Lee Decl., ¶¶ 34-35.

The Federal Circuit previously affirmed this Court's finding that "processor" failed to convey a sufficiently definite structure in a nearly identical situation. *WSOU Invs.*, 2023 WL 6889033, at *4. In *WSOU Investments*, the specification described that the processor could be "hardware, software, or a combination of the two" and that the processor may be "stored on a computer readable storage medium . . . to be executed by such a processing unit." *Id.* (citation omitted). Other references described the processor only "in terms of its function," not structure. *Id.* This Court and the Federal Circuit held that the processor term was subject to § 112, ¶ 6. *Id.*

The result should be the same here. The '016 Patent similarly describes the processor of the network device as implemented in hardware or software and that the processor may be implemented with flash, NVRAM, and RAM (i.e. computer readable storage medium). '016

Patent, 5:52-59, 11:1-9; Lee Decl., ¶ 35. Like in the claims in *WSOU Investments*, "'processor' is so generically and functionally described as to fail to convey a sufficiently definite meaning as a name for a structure." 2023 WL 6889033, at *4; Lee Decl., ¶¶ 32-38.

The broad identification of network devices in the specification further confirms that "processor" is generically defined as the hardware or software in any type of network device for "facilitating operations." *See St. Isidore Rsch.*, 2016 WL 4988246, at *14. The network device can be any network device, including all types of computers, routers, switches, modems, and other networking elements. *See, e.g.*, '016 Patent, 1:35-46 (describing "distributed computer networks"), claim 11 ("wherein the network device is a network router"); Lee Decl., ¶ 37. The operations of each of these types of network devices varies widely. For example, a network router connects packet-switched networks to manage traffic and forward data packets to their intended IP addresses. Lee Decl., ¶ 37. A modem converts signals from a digital format to an analog format for transmission. Lee Decl., ¶ 37. The '016 Patent does not describe how those processors connect to or interact with other components to facilitate the varied operations of the network devices. The claimed "processor" of the network device is thus so broad as to generically be any structure that "facilitates operation" within any network device. Lee Decl., ¶¶ 37-38.

Therefore, this limitation is subject to Section 112, ¶ 6.

The claimed function of the "processor" is "facilitating the operation of the network device." A network device with a processor is nothing more than a general purpose computer. Lee Decl., ¶ 41. The claimed network device with a processor configured to facilitate the operation of the network device is a "special purpose computer, [i.e.,] a general purpose computer programmed to perform" the claimed function. *Williamson*, 792 F.3d at 1352. Because the claimed limitation "must be implemented in a special purpose computer," the Federal Circuit "has consistently required that the structure disclosed in the specification be more than simply a general purpose

computer or microprocessor. . . . [and] that the specification disclose an algorithm for performing the claimed function." *Id.* at 1352. As discussed above, however, the specification only discloses a general purpose chipset or microprocessor for performing the claimed function; it does not disclose an algorithm for "facilitat[ing] operation of the network device." *Id.*; *WSOU Invs.*, 2023 WL 6889033, at *4; *Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310, 1318 (Fed. Cir. 2013) ("When dealing with a 'special purpose computer-implemented means-plus-function limitation,' we require the specification to disclose the algorithm for performing the function."); Lee Decl., ¶¶ 42-43.

Therefore, because the '016 Patent fails to disclose any structure corresponding to the function of the "processor," claim 1 (and all claims depending from claim 1) of the '016 Patent should be found to be invalid for indefiniteness. Lee Decl., ¶ 44.

### 2. "The apparatus of claim 1, wherein the apparatus is a component within the network device" ('016 Patent, Claim 9)

| LGL's Proposed Construction | IV's Proposed Construction |
|---|---|
| Indefinite | Plain and ordinary meaning |

Claim 9 of the '016 Patent is indefinite because it fails to inform a POSITA about the scope of the invention with reasonable certainty. *Nautilus, Inc. v. Biosig Instr., Inc.*, 572 U.S. 898, 910 (2014). A POSITA would not be able to ascertain how the apparatus could be a component within the network device as recited in Claim 9 when Claim 1 describes the exact opposite—namely that the network device is a component within the apparatus.

Claim 1 claims an apparatus comprising *inter alia* a network device "having a network interface" and "a second bus . . . that is distinct from the first bus." '016 Patent, 22:27-30, 22:41-43 (claim 1). Claim 1 thus positively recites a "network device" as part of the apparatus, including specific structural elements of the network device (i.e., a network interface, or a bus) beyond mere language of capability (e.g., "configured to").

The network device is also not merely a material or article worked upon by a structure nor is it "a statement of intended environment that is introduced inferentially." *See, e.g.*, *Glob. Equity Mgmt. (SA) Pty. Ltd. v. Expedia, Inc.*, No. 2:16-cv-00095-RWS-RSP, 2016 WL 7416132, at \*14 (E.D. Tex. Dec. 22, 2016) (collecting cases). Instead, the '016 Patent claims specific structural requirements of the network device to allow secure transmission of data from a remote administrator to the network device, including the interaction between the network device and other structural elements distinct from the network device. '016 Patent, claim 1. For example, claim 1 describes that the network device can send an encrypted form of management requests from the second bus of the network device to a bus controller, and then the bus controller sends those management requests to the first bus. *Id.* Unlike a material or article worked upon by the claimed apparatus or a statement of intended environment, the network device (and its network interface, and bus) are physically required to complete the invention of claim 1. Lee Decl., ¶ 47. Because the network device (and components thereof) are positively-claimed, required limitations of claim 1, the network device is a sub-component of the apparatus. *See id.*

Claim 9 depends from Claim 1 and claims the opposite configuration—an embodiment where "the apparatus is a component within the network device." However, as claim 1 establishes, the network device is a sub-component of the apparatus. Thus, Claim 9's additional limitation that the apparatus is the component within the network device contradicts the limitation of claim 1. As such, a POSITA could not ascertain how in claim 9, the "apparatus" could be a component of the "network device." Lee Decl., ¶¶ 48-49. Given this discrepancy, it is impossible to determine the scope of Claim 9 with reasonable certainty, making it invalid for indefiniteness.

Moreover, Claim 9 is indefinite because it violates Section 112, ¶ 4, which requires that dependent Claim 9 "incorporate[s] by reference all the limitations of" Claim 1 and "specify a further limitation of the subject matter claimed." *Multilayer Stretch Cling Film Holdings, Inc. v.*

*Berry Plastics Corp.*, 831 F.3d 1350, 1362 (Fed. Cir. 2016) (emphasis omitted) (citation omitted) (invalidating dependent claim for failing to comply with Section 112(d) because "[i]ndependent claim 1 excludes LDPE from the inner layers, while dependent claim includes it"); *Huawei Techs. Co. v. T-Mobile US, Inc.*, No. 2:16-CV-00055-JRG-RSP, 2017 WL 2190103, at *27-28 (E.D. Tex. May 17, 2017) (finding dependent claims indefinite for failing to comply with Section 112, ¶ 4 because "Claim 5 contradicts the claim language of claims 1 and 3 by reciting that the 'address information' provided by the CRF was in fact not provided by the CRF"). Claim 9 erases rather than narrows independent claim 1, ***replacing*** the limitation of claim 1 that the network device is a sub-component of the apparatus with the limitation that the apparatus is a sub-component of the network device. *See* MPEP 608.01(n) (9th ed. Rev. 07.2022, Feb. 2023) (dependent claim cannot eliminate or alter limitation of independent claim, explaining that "if claim 1 recites the combination of elements A, B, C, and D, a claim reciting the structure of claim 1 in which D was omitted or replaced by E would not be a proper dependent claim").

Therefore, claim 9 is also indefinite for violating Section 112, ¶ 4. *See Pfizer, Inc. v. Ranbaxy Lab'ys Ltd.*, 457 F.3d 1284, 1292 (Fed. Cir. 2006) (finding dependent claim invalid under Section 112, ¶ 4 because the dependent claim "fails to 'specify a further limitation of the subject matter' of the claim to which it refers because it is completely outside the scope of" that claim).

**B.    '140 Patent**

1. **"remote device management communication system for securely controlling access to management applications and communications to and from said management applications on network devices in a distributed computer network that includes one or more network services, one or more secure management access controllers, and one or more managed network devices, the remote device management system comprising:" ('140 Patent, Claim 1)**

| LGL's Proposed Construction | IV's Proposed Construction |
|---|---|
| Preamble is limiting | Preamble is not limiting |

The preamble of claim 1 of the '140 Patent is limiting. It is the antecedent for multiple, vital claim limitations and does more than state the purpose of the invention.

"[A] preamble limits the invention if it recites essential structure or steps, or if it is 'necessary to give life, meaning, and vitality' to the claim." *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (citation omitted). "[D]ependence on a particular disputed preamble phrase for antecedent basis may limit claim scope because it indicates a reliance on both the preamble and claim body to define the claimed invention." *Id.*

Here, the preamble of the '140 Patent lists specific, essential structures of the claimed "remote device management communication system" that act as antecedent bases to limitations in the body of Claim 1: "A remote device management communication system . . . that includes one or more network services, one or more secure management access controllers, and one or more managed network devices . . . ." The preamble provides antecedent basis for "said managed network device", "said one or more network services," and "said secure management access controller." "While antecedent basis alone is not determinative of whether a preamble is limiting," here the "use of preamble terms to define positive limitations in the body of claims . . . evince[s] an inventor's intent that the preamble limit the scope of the claim." *Shoes by Firebug LLC v. Stride Rite Children's Grp., LLC*, 962 F.3d 1362, 1368 (Fed. Cir. 2020). For example, the "out-of-band connection means" connects "said one or more network services" with "said secure management access controller"—both of which have their antecedent basis in the preamble. Similarly, the "virtual management interface connection means" also connects "said one or more network services" with "said secure management access controller"—again, both of which are recited in the preamble. Because Claim 1 uses preamble terms to define positive limitation in the body of the claim, "the preamble is essential to understanding the structural limitations" of the remote device management communication system. *Id.*; *see also Digit. Retail Apps, Inc. v. H-E-B, LP*,

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No. 6-19-CV-00167-ADA, 2020 WL 376664, at *8 (W.D. Tex. Jan. 23, 2020) ("[T]he Court finds the preamble limiting because the preamble provides the antecedent basis for limitations in the body.").[4] Therefore, the preamble of the '140 Patent should be found to be limiting.

### 2.   "out-of-band connection means" ('140 Patent, Claims 1, 6, and 7)

| LGL's Proposed Construction | IV's Proposed Construction |
|---|---|
| Subject to 112, ¶ 6<br><br>Function: "connecting said one or more network services or remote users with said secure management access controller for management of said network device"<br><br>Structure:<br><br>Structure disclosed at 3:2-4, 6:14-21, 7:60-62, 12:21-13:31, 15:3-25, 15:40-16:34, FIGS. 3-5, 9-13, 18, and 23-26 and equivalents | Subject to 112, ¶ 6<br><br>Function: "connecting said one or more network services or remote users with said secure management access controller for management of said network device"<br><br>Structure: a SMACC Network Enabled Management Interface; and/or communication system component(s), such as protocols, modems, and physical interfaces; and/or equivalents.<br><br>*See* '140 Patent, 11:60-13:31, 14:55-16:34, FIGS. 3-5, 9-13, 18, and 23-26. |

The parties agree that "out-of-band access connection means" is subject to Section 112, ¶ 6, and agree as to the function and much of the corresponding structure, including what is disclosed at: 15:3-25, 15:40-16:34, FIGS. 3-5, 9-13, 18, and 23-26. The parties' dispute the inclusion of certain additional structures.

LGL contends that three additional structures are corresponding structure: the PSTN as an exemplary out-of-band connection (3:2-4), certain exemplary embodiments of the SMACC Network Enabled Management Interface disclosed at 6:14-21, and a SMACC interface for out-of-band connection through PSTN and packet cellular network (7:60-62). These disclosed structures clearly link to the claimed function and are also consistent with Plaintiff's own identification of the SMACC Network Enabled Management Interface as corresponding structure. *Williamson*, 792 F.3d at 1352 ("Structure disclosed in the specification qualifies as 'corresponding structure' if the

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[4] IV also treats the preamble as limiting in its infringement contentions and has charted each limitation in the preamble against the accused products. Ex. 1 ('140 Claim Chart) at 3-11.

intrinsic evidence clearly links or associates that structure to the function recited in the claim." (citations omitted)).

In addition, LGL disagrees with Plaintiff's identification of structure at 11:60-12:20 (describing the SMACC and Virtual Management Interface), 14:55-15:2 (same), and 15:26-39 (discussing Virtual Management Interface). Plaintiff has not identified the Virtual Management Interface ("VMI") nor the entire SMACC as corresponding structure for the claimed function. Therefore, these portions of the specification are irrelevant to the claimed function and inconsistent with Plaintiff's own identification of the Network Enabled Management Interface as the corresponding structure.

LGL also disputes Plaintiff's inclusion of "communication systems component(s), such as protocols, modems, and physical interfaces." This structure is not rooted in any citation to the specification and appears to be an attempt to go beyond the specific protocols, modems, and physical interfaces that are disclosed in the specification. In enacting Section 112, ¶ 6, "Congress struck a balance in allowing patentees to express a claim limitation by reciting a function to be performed rather than by reciting structure for performing that function, while placing specific constraints on how such a limitation is to be construed, namely, *by restricting the scope of coverage to only the structure, materials, or acts described in the specification as corresponding to the claimed function* and equivalents thereof." *Williamson*, 792 F.3d at 1347 (emphasis added). By broadly claiming all "communication systems component(s), such as protocols, modems, and physical interfaces"—not just those disclosed in the specification—Plaintiff is attempting to evade this restriction to gain all the benefits of reciting a function to be performed without the balancing constraints. Plaintiff's attempt to undermine the purpose of Section 112, ¶ 6 should be rejected.

The Court should adopt LGL's identification of corresponding structure.

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### 3.   "virtual management interface connection means" ('140 Patent, Claim 1)

| LGL's Proposed Construction | IV's Proposed Construction |
|---|---|
| Subject to 112, ¶ 6<br><br>Functions:<br><br>(i) "connecting said one or more network services or remote users with said secure management access controller";<br><br>(ii) "provides logical separation of management data from user data"<br><br>(iii) "utilizes user interfaces of said managed network element for connecting said one or more network services or remote users with said secure management access controller"<br><br>Structure:<br><br>Structure disclosed at: 3:2-33, 6:63-7:5, 9:2-7 | Subject to 112, ¶ 6<br><br>Functions:<br><br>(i) "connecting said one or more network services or remote users with said secure management access controller";<br><br>(ii) "provides logical separation of management data from user data"<br><br>(iii) "utilizes user interfaces of said managed network element for connecting said one or more network services or remote users with said secure management access controller."<br><br>Structure:<br><br>a Virtual Management Interface (VMI) coupled to a user interface on the managed device, where the VMI utilizes communication system component(s), such as protocols, modems, and physical interfaces; and/or equivalents.<br><br>*See* '140 Patent, 6:22-31, 8:20-29, 11:60-13:31, 14:55-16:34, FIGS. 3-5, 9-13, 18, and 23-26. |

The parties agree that this term is subject to Section 112, ¶ 6, agree as to the claimed functions, and agree as to much of the corresponding structure, including: 6:22-31, 12:5-20, 15:26-39, and FIGS. 3-5. The parties dispute the inclusion of certain additional structures.

LGL contends that the structure disclosed at 6:32-33, 6:63-7:3, 9:2-4, and 19:7-11—all of which disclose the VMI utilizing VPN technology to "provide[] logical separation of management data from user data"—should be included as corresponding structure. These disclosed structures clearly link to the claimed function and are also consistent with Plaintiff's own identification of the VMI as corresponding structure. *Williamson*, 792 F.3d at 1352.

To the contrary, Plaintiff attempts to include disclosures related to the SMACC as part of the construction to improperly broaden the scope of the claim. Plaintiff's identification of structure at 11:60-12:4, 12:21-13:31, 14:55-15:25, 15:40-16:34, and FIGS. 9-13, 18, and 23-26 describe the SMACC, the SMACC Network Enabled Management Interface, and corresponding structure for

the out-of-band access communication means—not the VMI or virtual management interface connection means claimed. Therefore, these portions of the specification are irrelevant (and inconsistent with Plaintiff's own identification of corresponding structure).

Lastly, for the same reasons described above in Section IV.B.2, LGL also disputes Plaintiff's inclusion of "communication systems component(s), such as protocols, modems, and physical interfaces" as an attempt to evade the price of functional claiming to gain all the benefits. *See Williamson*, 792 F.3d at 1347. Plaintiff's attempt to undermine the purpose of Section 112, ¶ 6 should be rejected, and the Court should adopt LGL's identification of corresponding structure.

### 4.  "protection means" ('140 Patent, Claim 11)

| LGL's Proposed Construction | IV's Proposed Construction |
| --- | --- |
| Subject to 112, ¶ 6<br><br>Function:<br><br>"protecting the management data"<br><br>Structure:<br><br>Structure disclosed at<br><br>3:49-60, 6:31-33, 6:34-7:6, 12:5-36, and FIGS. 5 and 22. | Subject to 112, ¶ 6<br><br>Function:<br><br>"protecting the management data"<br><br>Structure:<br><br>A virtual private network (VPN) via a virtual management interface (VMI) and/or an SMACC interface; and/or equivalents.<br><br>*See* '140 Patent, 3:49-60, 6:22-33, 6:58-7:6, 12:5-36, FIGS. 3-5, 21, and 22. |

The parties agree that "protection means" is subject to Section 112, ¶ 6, and agree on the claimed function and on much of the corresponding structure, including what is disclosed at: 3:49-60, 6:31-33, 6:58-6, 12:5-36, and FIGS. 5 and 22. The parties' dispute the inclusion of certain additional structures.

LGL contends that the structure disclosed at 6:34-57 should be included as corresponding structure. That portion of the specification specifically describes protecting management interfaces using "a combination of firewall, VPN, and authentication and authorization applications." *Id.* The VPN "protect[s] the management traffic between the management interface . . . and the

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management center." *Id.* The firewall and authentication and authorization applications both protect the management data at rest by prohibiting unauthorized access. *Id.* Thus, these structures are clearly linked to the function recited in the claim. *Williamson*, 792 F.3d at 1352.

LGL disagrees with Plaintiff's identification of structure at 6:22-30 and FIGS 3 and 21 which are not tied to and do not discuss the claimed functionality. Instead, 6:22-30 discusses the VMI interface and the uses of that to "logically separate[e] management traffic from user traffic" and "provide the transport of the management data cost effectively." *Id.* This discussion and the corresponding structures are not clearly linked to the function of "protecting the management data." Similarly, Figures 3 and 21 do not mention or show management data at all and thus do not show corresponding structure for "protecting management data."

The Court should adopt LGL's identification of corresponding structure.

**5. "monitoring means for monitoring the status of at least one computer network component" ('140 Patent, Claim 13)**

| LGL's Proposed Construction | IV's Proposed Construction |
|---|---|
| Subject to 112, ¶ 6<br><br>Function:<br><br>"monitoring the status of at least one computer network component"<br><br>Structure:<br><br>Algorithms disclosed at 7:25-44, 17:64-18:4, 18:20-51, 21:28-65, and FIGS. 15-16 | Subject to 112, ¶ 6<br><br>Function:<br><br>"monitoring the status of at least one computer network component"<br><br>Structure:<br><br>the SMACC; and/or the SMACC processor; and/or circuitry and/or software monitoring the status of network components and availability of power thereto; and/or equivalents<br><br>*See* '140 Patent, 7:25-44, 17:64-18:4, 18:20-51, 19:23-31, 19:65-20:4, 20:11-21:19, 21:28-65, FIGS. 2, 9, and 15-17. |

The parties agree that "monitoring means" in Claim 13 is subject to Section 112, ¶ 6, and agree as to the claimed function and as to much of the corresponding structure, including what is

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disclosed at: 7:25-44, 17:64-18:4, 18:20-51, 21:28-65, and FIGS. 15-16. The parties' dispute the inclusion of certain additional structures.

First, LGL disagrees with Plaintiff's recitation of the structure as the SMACC and/or the SMACC processor alone. As discussed *infra* in Section IV.B.6, the SMACC and SMACC processor are special purpose computers. When a claim limitation is subject to Section 112, ¶ 6 and must be implemented on a special purpose computer, as is the case here, the specification must disclose "an algorithm for performing the claimed function." *See Williamson*, 792 F.3d at 1352. Therefore, the SMACC and/or the SMACC processor alone cannot be the corresponding structure. *Id.* Instead, the proper corresponding structure is the SMACC and/or the SMACC processor, implementing the algorithms disclosed in 7:25-44, 17:64-18:4, 18:20-51, 21:28-65, and FIGS. 15-16.

Second, LGL disagrees with Plaintiff's identification of structure at 19:23-31, 19:65-20:4, and 20:11-21:19—all of which discuss ***reporting*** or ***sending of information***, including about the status of at least one computer network component—but not ***monitoring*** the status of at least one network component. Thus, these disclosures are not clearly linked to the function of "monitoring the status of at least one computer network component." *See Williamson*, 792 F.3d at 1352. In addition, LGL disagrees with Plaintiff's identification of Figures 2, 9, and 17. These figures are block diagrams that do not show (1) what computer network component is being monitored nor (2) what is doing the monitoring. Thus, for the same reason, these structures are not clearly linked to the claimed function and should not be included as corresponding structure. *Id.*

Finally, for the same reasons described above in Sections IV.B.2-3, LGL also disputes Plaintiff's inclusion of "circuitry and/or software monitoring the status of network components and availability of power thereto" as an attempt to evade the price of functional claiming to gain all the benefits. *Williamson*, 792 F.3d at 1347. Specifically, to the extent that Plaintiff contends

that function is performed with generic software on a general purpose computer, the corresponding structure must be "an algorithm for performing the claimed function," which Plaintiff has not identified *Id.* at 1352. Therefore, Plaintiff's overbroad identification of structure should be rejected. And to the extent that "circuitry and/or software" is included as the corresponding structure, it would render Claim 13 indefinite. *See id.* (holding that the corresponding structure cannot be a general purpose computer or microprocessor).

The Court should adopt LGL's identification of corresponding structure.

### 6. "monitoring means for monitoring the status of the network power supply" ('140 Patent, Claim 14)

| LGL's Proposed Construction | IV's Proposed Construction |
| --- | --- |
| Subject to 112, ¶ 6<br><br>Function:<br>"monitoring the status of the network power supply"<br><br>Structure:<br><br>Indefinite | Subject to 112, ¶ 6<br><br>Function: "monitoring the status of the network power supply."<br><br>Structure: The SMACC; and/or the SMACC processor; and/or equivalents.<br><br>*See* '140 Patent, 7:25-44, 11:25-36, 17:64-18:4, 18:20-51, 19:23-31, 19:65-20:4, 20:11-21:19, 21:28-65, FIGS. 2, 9, and 15-17. |

The parties agree that "monitoring means" in Claim 14 is subject to Section 112, ¶ 6 and agree as to the function.[5] The parties dispute whether this element is indefinite in light of Plaintiff's identification of SMACC and/or the processor of the SMACC as the corresponding structure. *See* '140 Patent, 18:33-51 (SMACC processor monitors the supply of external power to the power

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[5] While the claim describes a particular function, LGL contends that the specification never discloses that claimed function. IV's citations do not show otherwise. For example, 7:25-44, 21:28-65, and FIGS. 15-16 identified by IV do not discuss monitoring network power supply but instead monitoring management interfaces for connectivity. In addition, 11:25-36, 20:11-23, and 20:31-21:19 discusses reporting the status of network power supply, not monitoring it. 17:54-18:4 discusses reporting whether interfaces are down, not monitoring that status of the network power supply. 18:20-32 discusses monitoring connectivity to a POTS connection to the PSTN, not monitoring the status of the network power supply. 19:23-31 and 19:65-20:4 discuss sending of information to the network management station, not monitoring the status of the network power supply. Figures 2, 9, and 17 are block diagrams that do not show the flow of information nor what is monitoring the status of the network power supply.

supply), 20:24-30 (SMACC detects loss of power from the main power supply). The parties' dispute is whether this element is definite or not.

The SMACC is an exemplary embodiment of the present invention and is "implemented on a separate processor with separate flash and memory" and may also be "combined with other hardware and software features." '140 Patent, 5:48-62. Therefore, the invention of the '140 Patent is implemented on a "special purpose computer—a general purpose computer programmed to perform particular functions pursuant to instructions from program software." *Williamson*, 792 F.3d at 1352; Lee Decl., ¶ 53. When a claim limitation is subject to Section 112, ¶ 6 and must be implemented on a special purpose computer, as is the case here, the specification must disclose "an algorithm for performing the claimed function." *Id.*

The SMACC and the SMACC processor are special purpose computers for performing the claimed function. The specification does not disclose any algorithm, formula, flow chart, or any prose explaining ***how*** the SMACC and/or SMACC processor monitor the status of the network power supply. Instead, the specification only discloses that the SMACC processor "monitor[s] the supply of external power to the power supply" (18:36-37) and the SMACC "detect[s] loss of power from the main power supply" (20:24-25). Without disclosure of an algorithm, there is inadequate disclosure of corresponding structure in the specification. *Williamson*, 792 F.3d at 1354.

Moreover, the SMACC is an exemplary embodiment of the entire claimed apparatus. '140 Patent, 5:48-62. The "monitoring means for monitoring the status of the network power supply" is a limitation of Claim 14, which depends from Claim 1, and thus the "monitoring means" is a component of the apparatus or SMACC. It is illogical to point to the entire apparatus/SMACC as the corresponding structure for a single limitation within the apparatus/SMACC. This further confirms that a POSITA would be unable to determine the scope of the invention with reasonable certainty given the absence of an algorithm. Lee Decl., ¶ 56. A POSITA would be unable to

determine how a computer, such as the SMACC, performs the function because a computer "can be programmed to perform very different tasks in very different ways." *Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008); Lee Decl., ¶¶ 57-58. Without disclosing the specific algorithm, the disclosure of the '140 Patent of a computer or microprocessor amounts to purely functional claiming unbounded by the specification. *Id.*

Indefiniteness is confirmed by the fact that Plaintiff identifies the SMACC as corresponding structure for at least three other claim terms: (1) "monitoring means for monitoring the status of at least one computer network component"; (2) "reporting means for reporting the status of the network power supply", and (3) "means for monitoring connection attempts made through the management access controller." Ex. 2 (Plaintiff's Proposed Claim Constructions). Under Plaintiff's proposed constructions, the SMACC acts as the catch-all special purpose computer for numerous limitations without disclosing any specific algorithm for performing those functions.

Because the specification contains no algorithm for performing the claimed function, the Court should find this term indefinite. Lee Decl., ¶ 59.

### 7. "reporting means" ('140 Patent, Claim 14)

| LGL's Proposed Construction | IV's Proposed Construction |
|---|---|
| Subject to 112, ¶ 6<br><br>Function:<br>"reporting the status of the network power supply"<br><br>Structure:<br>Indefinite | Subject to 112, ¶ 6<br><br>Function: "reporting the status of the network power supply."<br><br>Structure:<br>The SMACC; and/or the VMI; and/or the SMACC interface; and/or equivalents.<br><br>*See* '140 Patent, 6:22-33, 7:39-44, 11:25-36, 11:60-67, 12:5-20, 18:20-51, 20:11-21:12, FIGS. 2, 3, 9, & 15-17. |

The parties agree that this term is subject to Section 112, ¶ 6 and agree as to the claimed function. The parties dispute whether the VMI and/or the SMACC interface are corresponding

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structure that perform the claimed function. The parties also dispute whether this term is indefinite in light of Plaintiff's identification of the SMACC as the corresponding structure.[6] *See* '140 Patent, 18:44-51, 20:11-21:12.

LGL disputes that the VMI and/or the SMACC interface as disclosed in the specification citations identified by Plaintiff are corresponding structure. First, the disclosures relating to the VMI do not discuss reporting the status of the network power supply or reporting at all but merely discusses connection pathways using the VMI. *Id.*, 6:22-33, 11:60-67, 12:5-20; Lee Decl., ¶ 62. Second, neither the VMI nor the SMACC interface perform any reporting. Instead, they are merely connection interfaces over which the SMACC performs the actual function of reporting the status of the network power supply. *See, e.g.*, '140 Patent, 11:25-36 ("The SMACC could then report the power loss over the SMACC interface . . . ."); 18:44-51 (The SMACC "will notify the management center of the loss of power" and could "likely" use "the SMACC interface"); Lee Decl., ¶ 62. Therefore, the SMACC is the only disclosure that performs the claimed function.

For the same reasons discussed above in Section IV.B.6, because the only corresponding disclosure to the claimed function is the SMACC without disclosing an algorithm, the disclosure of the SMACC computer amounts to purely functional claiming unbounded by the specification. *See* Lee Decl., ¶¶ 63-67; *Aristocrat Techs.*, 521 F.3d at 1333. Therefore, this claim is indefinite.

### 8. "means for monitoring connection attempts made through the management access controller" ('140 Patent, Claim 16)

| LGL's Proposed Construction | IV's Proposed Construction |
| --- | --- |
| Subject to 112, ¶ 6 | Subject to 112, ¶ 6 |
| Function: | Function: |

---

[6] LGL also disputes that certain specification disclosures related to the SMACC are tied to the claimed function. For example, 7:39-44 discusses reporting unavailability of management interface, not the network power supply. *See also* '140 Patent, 18:20-32 (same); FIGS. 15-16 (monitoring of POTS network connection). Figures 2, 9, and 17 are block diagrams that do not show the flow of information including what information is being reported and what structure is sending the report.

| "monitoring connection attempts made through the management access controller" | "monitoring connection attempts made through the management access controller" |
|---|---|
| Structure: | Structure: |
| Algorithm disclosed at 22:4-25 and Figure 32 | Structure: the SMACC; and/or equivalents. *See* '140 Patent, 8:13-19, 22:4-25, FIG. 32. |

The parties agree that this term is subject to Section 112, ¶ 6, agree as to the claimed function, and partially agree on corresponding structure in the form of the algorithm disclosed at 22:4-25 and in Figure 32. The dispute is whether this term should be limited to that specific algorithm and its equivalents.

LGL disagrees with Plaintiff's identification of the SMACC as supporting structure. As described above, Plaintiff should not be permitted to claim the SMACC computer broadly as structure without disclosing an algorithm because it will allow Plaintiff to avoid the price of claiming in purely functional terms. *Supra* § IV.B.2-3. The specification only discloses that the SMACC "detect[s] attempts to access the management interfaces by unauthorized systems or users" (18:13-19)—it does not disclose any algorithm, formula, flow chart, or prose explaining *how* the SMACC "monitor[s] connection attempts made through the management access controller." Without such disclosure, there is inadequate disclosure of corresponding structure. *Williamson*, 792 F.3d at 1354.

Therefore, the Court should find that the corresponding algorithm for this function is only as disclosed at 22:4-25 and in Figure 32.

### 9. "said . . . remote users" '140 Patent, Claim 1

| LGL's Proposed Construction | IV's Proposed Construction |
|---|---|
| Indefinite | Plain and ordinary meaning |

Claim 1 of the '140 Patent is indefinite due to the lack of reasonable certainty in the meaning of the term "said . . . remote users." *See Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008) ("[A] claim could be indefinite if a term does not have proper

antecedent basis where such basis is not otherwise present by implication or the meaning is not reasonably ascertainable"); *see also Nautilus*, 572 U.S. at 910.

Claim 1 describes a remote device management communication system that securely controls access to management application and communication sent to and from said management applications in a distributed computer network. '140 Patent, 22:32-39 (claim 1, preamble). The remote device management communication system includes "one or more network services, one or more secure management access controllers, and one or more managed network devices." *Id.* Claim 1 describes "an out-of-band access connection means for connecting **said** one or more network services **or remote users** with said secure management access controller." *Id.*, 22:44-47 (emphasis added); *see also id.*, 22:54-57 (same). Claim 1 also describes "at least one virtual management interface connection means for connecting **said** one or more network services **or remote users** with said secure management access controller." *Id.*, 22:48-51.

First, claim 1 is nonsensical because it includes a person ("remote users") within the claimed remote device management communication system. The specification confirms that a "remote user" is a person—not a device. *See, e.g.*, '016 Patent, 8:13-15 (distinguishing between "unauthorized systems or users"). As such, a POSITA would understand that a "remote user" is a person using a device and not use that term to refer to a device itself. Lee Decl., ¶¶ 69-71. Therefore, a POSITA would be unable to ascertain with reasonable certainty how a person could be connected to a device, i.e., a secure management controller, as set forth in claim 1, rendering it indefinite. *Id.*

Second, claim 1 is also indefinite because there is no antecedent basis for "said . . . remote users." There can be no dispute that there is no explicit antecedent basis for "said . . . remote users" in Claim 1. Nor is there an antecedent basis by implication. As discussed above, "remote users"

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are humans, and the only potential antecedent bases in claim 1 are devices within a communication system. None of those devices can be an implicit antecedent basis for a human. Lee Decl., ¶ 72.

Nothing in the claims describes how the "remote users" relate to the network services or other disclosed elements. "Remote users" are listed separately from "network services" each time "remote users" appear in the claim (i.e., "said one or more network services or remote users"), creating a presumption that those terms have different meanings. *See, e.g.*, *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1382 (Fed. Cir. 2008) (declining to construe "partially" to mean "generally" or "at least" when those terms appeared in the claims). This is confirmed by the specification that describes network services such as "ACS, Domain Name Server (DNS), NPT, Network management Stations, Logging Servers, and Intrusion Detection Systems management stations." '140 Patent, 4:53-67, 7:48-56. These are services that would be used by or accessed by a person who is "remote user," but those individuals are not coextensive with those services. *Id.* (e.g., describing centralized authentication and authorization services); Lee Decl., ¶ 72.

Nor can "said . . . remote users" find implied antecedent basis in the "secure management access controller." Setting aside the issues of including a human in a communication system, claim 1 describes that the "said . . . remote users" are *connected* to "secure management access controllers"—they cannot be coextensive.

The only other option is to find an implicit antecedent basis for "said . . . remote users" is a "managed network device." Devices and users are obviously different (Lee Decl., ¶¶ 69- 72), and the specification describes at length that the remote user "access[es] the managed device via the SMACC." '140 Patent, 8:20-29; *see also, e.g.*, *id.*, 15:15-25 ("[T]he remote administrator is using his work station to directly dial the PTSN phone number for the managed device in order to access a SMACC interface on the managed device."); 15:42-44 ("FIG. 5 shows another configuration that can be used to allow remote administrators access to a SMACC enabled

managed device."), FIGS. 4-5. Thus, because the "said . . . remote users" *access* the managed network device, the managed network device cannot serve as an implicit antecedent basis for "said . . . remote users."

No other potential antecedent bases exist. Because the term "said . . . remote users" lacks an antecedent basis, a POSITA cannot determine the scope of claim 1 of the '140 Patent with reasonable certainty. Claim 1 (and all claims that depend therefrom) are invalid for indefiniteness. Lee Decl., ¶ 73.

### C.    '835 Patent

#### 1.  Preambles ('835 Patent, Claims 1, 7, 12, 20, and 23)

| LGL's Proposed Construction | IV's Proposed Construction |
|---|---|
| Preambles are limiting | Preambles are not limiting |

The parties dispute whether the relevant preambles (that are set out in Claims 1, 7, 12, 20, and 23) are limiting. As supported by the claims, specification, and prosecution history, the preambles of each of the independent claims of the '835 Patent asserted by IV should be limiting. Each of the preambles include calibrating or altering "intra-cycle timing relationships between command signals, data signals, and sampling signals." *See* '835 Patent, claims 1, 7, 12, 20, and 23.

The claim language confirms that the preamble is a limitation. "Generally, a preamble limits the invention 'if it recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim.'" *Visible Connections, LLC v. Zoho Corp.*, 418 F. Supp. 3d 155, 161 (W.D. Tex. 2019). This is the case here, where each of the preambles require steps such as "automatically calibrating intra-cycle timing relationships between command signals, data signals, and sampling signals for an integrated circuit device" (claims 1 and 7) and "finding an operating mode for a [DDR DRAM / DRAM] component [coupled to a PCB (printed circuit board)] by altering intra-cycle timing relationships between command signals, data signals, and sampling

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signals for the [DDR DRAM / DRAM] component" (claims 12, 20, and 21). Each of the claims

recites again elements that are first introduced in the preamble such as command signals, data

signals, and sampling signals, confirming that the preamble recites essential structure or steps and

thus should be found limiting.

Independently, to overcome an obviousness rejection based on Johnson (US

2003/0122696), the Applicant argued during prosecution that:

> Johnson fails to teach or suggest the claimed limitations of <u>systematically altering</u>
> <u>respective phase shifts of the command, data, and sampling signals to determine a</u>
> <u>valid operation range of the integrated device</u>. That is, Johnson discloses achieving
> sampling or timing calibration by determining an optimal delay for the command
> signals and the data signals, whereas Claim 1 recites the determination of the valid
> range of the integrated circuit device by systemically altering the phase shift of the
> sampling signals as well as the phase shift of the command signal and the phase
> shift of the data signal, as claimed.

Ex. 3 (Mar. 12, 2009, Arguments/Remarks Made in an Amendment) at 13. Applicant distinguished

from the prior art based on the element of "altering respective phase shifts of the command, data,

and sampling signals to determine a valid operation range of the integrated device," which is

essentially the substance of the preamble in Claims 1, 7, 12, 20, and 23. When a patent applicant

relies "on the preamble during prosecution to distinguish the claimed invention from the prior art

[it] transforms the preamble into a claim limitation because such reliance indicates use of the

preamble to define, in part, the claimed invention." *Catalina Mktg.*, 289 F.3d at 808.

Aside from the Applicant presenting arguments regarding the preamble, the Examiner

confirmed allowance of the claims based on limitations in the preambles. In the notice of allowance

the Examiner explained that "Claims 1-20, 22, and 25, and 26 are allowable over prior art

references because related references do not disclose altering int[ra] [sic]-cycle timing

relationships between signals by altering a phase shift of command signals, a phase shift of data

signals, and a phase shift of sampling to determine a valid operation range of an integrated circuit

device (DRAM or DDR DRAM)." Ex. 4 (May 14, 2009, Notice of Allowance) at 2. As in the Examiner's statement of reasons for allowance, the preamble of each independent claim requires "[calibrating/altering] intra-cycle timing relationships between command signals, data signals, and sampling signals," confirming that the preambles should be limiting. *Catalina Mktg.*, 289 F.3d at 808; *Digit. Retail Apps*, 2020 WL 376664, at *8 (finding preamble limiting based in part of "clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art").

Further, "[w]hether to treat a preamble as a limitation is a determination 'resolved only on review of the entire[ ] . . . patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.'" *Catalina Mktg.* 289 F.3d at 808 (alterations in original). Here, the specification similarly confirms that the inventor's intent was for the preamble to be limiting not just a purpose or use. Each time the '835 Patent describes the claimed invention, it states "[e]mbodiments of the present invention implement a method and system for automatically calibrating intra-cycle timing relationships between command signals, data signals, and sampling signals for an integrated circuit device" or some variation thereof. *See* '835 Patent, 1:35-38, 2:15-18, 3:3-7, 3:13-16, 5:44-46.

2. **"the valid operation range includes an optimal operation point for the integrated circuit device" ('835 Patent, Claims 1 and 7)**

| LGL's Proposed Construction | IV's Proposed Construction |
|---|---|
| Indefinite | Plain and ordinary meaning |

The claim language "the valid operation range includes an *optimal operation point* for the integrated circuit device" in Claims 1 and 7 of the '835 Patent is indefinite because it fails to inform, with reasonable certainty, those skilled in the art about the scope of the alleged invention.

"Optimal operation point" is a subjective term of degree. *See, e.g., Intell. Ventures I LLC v. T-Mobile USA, Inc.*, 902 F.3d 1372, 1381 (Fed. Cir. 2018) ("'[O]ptimiz[ing] . . . QoS' is a 'term

of degree' that . . . is 'purely subjective' . . . " (second and third alterations in original) (citation omitted)).[7] While terms of degree are not *per se* indefinite, "case law is clear that the objective boundaries requirement applies to terms of degree." *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1364 (Fed. Cir. 2018). A term of degree may be definite only if "it provide[s] enough certainty to one of skill in the art when read in the context of the invention." *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (Fed. Cir. 2014). If the term of degree is "purely subjective," that term is indefinite. *Id.* at 1371, 1374 (citation omitted).

"Optimal operation point" is not a term of art and the '835 Patent provides no guidance as to which "operation point" may be optimized, much less objective bounds for finding a given "operation point" is "optimal." Without this information a POSITA cannot determine with reasonable certainty whether a particular operation point is optimal and thus within the scope of the claims. Lee Decl., ¶ 75-79. Thus, each of Claims 1 and 7 "fail[] to provide sufficient notice of its scope [because] it depends 'on the unpredictable vagaries of any one person's opinion'" regarding what is optimal for various integrated circuit devices, rendering the term indefinite. *Interval Licensing*, 766 F.3d at 1371 (citation omitted).

Other courts have confirmed that where—as here—the specification fails to provide objective boundaries for determining the meaning of "optimal" that term renders the claim indefinite. *See, e.g.*, *Akamai Techs., Inc. v. MediaPointe, Inc.*, No. 2:22-cv-06233-MCS (AFMx), 2023 WL 7386057, at *6 (C.D. Cal. July 7, 2023) ("The specification does not teach how much weight to give 'hops' versus 'latency' versus 'reliability.' For these reasons, the terms 'optimal' and 'best' are indefinite."); *Netgear, Inc. v. Ruckus Wireless, Inc.*, 5 F. Supp. 3d 592, 610 (D. Del. 2013) ("Plaintiff's definition and explanation of the limitation does not allow one of skill in the art

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[7] As defined in the New Oxford American Dictionary (2001), "optimal" means "most desirable or satisfactory." Ex. 5; *see also* Ex. 6 (Macmillan English Dictionary (2002)) (defining optimum as "the best or most suitable within a range of possibilities"); Ex. 7 (Collins Concise Dictionary (5th Ed. 2001)) (defining optimum as "a condition, degree, amount, or compromise that produces the best possible result").

to discern what the 'optimal conditions' are, which parameters would allow one to achieve such conditions, or how to adjust said parameters. For these reasons, the court concludes that the limitation 'optimal conditions' is indefinite.").

Like in *Akamai* and *Netgear*, the '835 Patent contains no description of "optimal operation point" that could inform a POSITA with reasonable certainty what the bounds are regarding "optimal" operation points of integrated circuit devices. The '835 Patent has no explanation of how an operation point is determined to be optimal. Rather, what is optimal is based on the discretion of a user to "intelligently" make "configuration choices" without explaining how the configuration choices or "device parameters" should be used to consistently find an "optimal" solution. '835 Patent, 4:13-21; 5:48-51.

The disclosure of exemplary parameters that may be used does not provide a POSITA with reasonable certainty as to what is "optimal." *Akamai*, 2023 WL 7386057, at *6. For example, the '835 Patent discloses that "intra-cycle timing relationships between the command/address signals, the DQ signals, and the DQS signals are calibrated to ensure the optimal operation of the DRAM components 110." '835 Patent, 3:13-16. While the specification describes how the physical calibration process occurs, it does not describe how those timing relationships should be used consistently to find the "optimal" operation. *Id.*, 3:16-31. Lee Decl., ¶ 76-79. The specification does not limit the factors to consider regarding "optimal" operation to just the "intra-cycle timing relationships between the command/address signals, the DQ signals, and the DQS signals." *Id.*, 4:13-21 ("[B]y altering device parameters (*e.g.*, the phase relationship between command signals, data signals, sampling signals, *etc.*) to find an optimal operating point . . . ." (emphasis added)). Lee Decl., ¶ 78 A POSITA could not know which factors provide an "optimal operation point" confirming that this determination is entirely discretionary. Lee Decl., ¶ 78-79.

This is nearly identical to the claims in *Akamai*. In *Akamai*, the asserted patent claimed "optimal" or "best" trace routes between nodes in a network for relaying data. 2023 WL 7386057, at \*2. While the specification describes the process of comparing trace routes based on categories of factors listed in five separate tables, "the specification fail[ed] to explain how the categories should be used to consistently find a 'best' or 'optimal' route." *Id.* at \*6. The court also found those criteria "subjective" because the "specification does not teach how much weight to give [one factor] versus [another factor]." *Id.* Indeed, the "specification does not explain which factors take priority and also leaves open the possibility that user[s] may weigh or consider other factors." *Id.* Taken together, the asserted patents "leaves the 'best' or 'optimal' route determination process uncertain and open to user discretion." *Id.* Like in *Akamai*, the '835 Patent does not provide a complete list of factors, require consideration of any particular factor, explain the priority of any factors, or explain the weight any factor should be given. Without such guidance, determining "optimum operating point[]" is left the discretion of the user to pick and choose how to determine "optimal." *See also Netgear*, 5 F. Supp. 3d at 609-10 (citation omitted) (finding "optimal conditions" indefinite because the "specification does not teach a person of ordinary skill whether the identified parameters are those used to determine 'optimal conditions' or what the limits of the identified parameters are for 'optimal conditions.'").

The '835 Patent further compounds this problem because it provides no guidance on what performance factor or factors of the integrated circuit device should be optimized. For example, an integrated circuit device could be optimized for performance, which may lead to high energy consumption. Lee Decl., ¶ 80. An integrated circuit device could also be optimized for energy savings, which may lead to reduced performance. *Id*. Or a user could optimize an integrated circuit device based on both performance and energy savings, leading the user to compromise and accept both lower performance and lower energy savings than if it had just optimized for a single variable.

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*Id.* The '835 Patent, however, provides no insight regarding what performance factors are being optimized. *Id*.

Without knowing both the goal of the optimization and a complete set of factors and their priority and weight, a POSITA cannot reasonably and consistently determine what "an optimal point for the integrated circuit device" is, rendering that term indefinite. *Interval Licensing*, 766 F.3d at 1373 (holding that terms that are "facially subjective" and "without an objective boundary" are indefinite).

### D.    '439 Patent

#### 1.  "cyclically advancing the first OFDM packet by shifting the samples in a first direction" ('439 Patent, Claim 1)

| LGL's Proposed Construction | IV's Proposed Construction |
|---|---|
| "cyclically advancing the first OFDM packet by shifting the samples in the direction of transmission" | Plain and ordinary meaning |

For the reasons set forth in Zebra's Opening Claim Construction Brief (6:23-cv-00292 (WDTX), Dkt. 43), the Court should construe this claim term as "cyclically advancing the first OFDM packet by shifting the samples in the direction of transmission."

## V.    CONCLUSION

For the foregoing reasons, LGL respectfully requests that the Court adopt LGL's proposed construction for each disputed claim term.

Dated: February 6, 2024                          Respectfully submitted,

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## CERTIFICATE OF SERVICE

Pursuant to the Federal Rules of Civil Procedure and Local Rule CV-5, I hereby certify that, on February 6, 2024, all counsel of record who have appeared in this case are being served with a copy of the foregoing via the Court's CM/ECF system.

*/s/ Steve R. Borgman*
Steve R. Borgman